



National Weather Service

Storm Data and Unusual Weather Phenomena



March 2005

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
<u>IOWA, Central</u>									
Palo Alto County									
West Bend	06	1916CST			0	0			Thunderstorm Wind (MG50)
Calhoun County									
Rockwell City	06	2025CST			0	0	1K		Hail(0.88)
Webster County									
Ft Dodge	06	2030CST			0	0	5K		Hail(1.00)
Taylor County									
Gravity	06	2047CST			0	0	1K		Hail(0.88)
Ringgold County									
1 E Clearfield	06	2108CST			0	0	1K		Hail(0.88)
Dallas County									
1 N Wauke	06	2138CST			0	0			Hail(0.75)
Polk County									
5 WNW Des Moines Ekn	06	2150CST			0	0			Hail(0.75)
Decatur County									
Leon	06	2154CST			0	0			Thunderstorm Wind (MG50)
Story County									
6 SE Colo	06	2157CST			0	0	1K		Hail(0.88)
Marshall County									
State Center	06	2204CST			0	0	1K		Hail(0.88)
Decatur County									
1 S Garden Grove	06	2210CST			0	0	10K		Thunderstorm Wind (EG57)
Decatur County									
Garden Grove	06	2215CST			0	0	5K		Lightning
Wayne County									
Allerton	06	2215CST			0	0	1K		Hail(0.88)

A strong low pressure moved across the northern U.S. during the afternoon and evening hours of the 6th. Very warm air surged north into Iowa with afternoon temperatures reaching the upper 60s to mid 70s in most locations. A trough extending south from the low entered the state during the evening. Strong southwest winds brought moisture north into the state with dew points reaching the low 50s in southwest Iowa by the evening hours. The low level jet was in the 35 to 45 kt range. The airmass became unstable with lifted indices around -2 and CAPE values around 400 J/kg by evening. The freezing level was around 8500 feet which was conducive for hail. Thunderstorms erupted ahead of the approaching trough during the early evening. The line of thunderstorms filled in quite quickly. Though most of the storms were not severe and produced pea to marble size hail and 35 to 50 MPH winds, a few of the storms did become severe. There were spotty wind reports of 55 to 60 MPH with several of the storms producing nickel size and slightly larger hail. The largest hail report came from Webster County with one inch diameter hail. High winds caused considerable damage to trees and some structural damage near the Garden Grove area. Lightning also struck a house in Garden Grove, causing minor damage.

IAZ044>045-057>058-
070>071-081>082-092>093

Crawford - Carroll - Audubon - Guthrie - Cass - Adair - Adams - Union - Taylor - Ringgold

10	1330CST 1600CST	0	0	50K	High Wind (MG55)
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A fast moving weather pattern was in place over Iowa. A series of strong short waves continued to move through the state. Each of the short waves formed an "Alberta Clipper" type low along the baroclinic ribbon as it they raced southeast. One low pass northeast of Iowa during the day on the 10th. High winds developed on the southwest side of the low during the day. Profiler winds indicated a unidirectional flow with wind speeds between 35 and 40 kts through a deep layer from the surface on up. Winds were well mixed



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IOWA, Central

in the lower layers of the atmosphere with widespread winds of 25 to 35 MPH sustained across the CWA, with frequent gusts to around 50 MPH. During the early to mid afternoon, convective snow showers developed. Winds became very gusty over southwest Iowa as they moved through. Several locations reported winds near 60 MPH. Creston reported the highest winds with a peak gust of 63 MPH. Damage was limited since the leaves had not yet appeared on the trees.

IAZ004>007-015>017

Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo

18	1030CST 2330CST	0	0	35K	Heavy Snow
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A late season snowstorm affected northern Iowa during the day on the 18th, into the evening. Low pressure moved into the northern Rockies on the 17th and eventually tracked east-southeast across Iowa. Moisture was lacking for the system, however dynamics made up for the moisture shortcoming. Surface dew points only rose to the upper 20s to low 30s as the Gulf of Mexico was essentially cut off. A strong south-southwest flow of warm air streamed north over the top of colder air at the surface. Isentropic lift was very impressive. Upward vertical velocities were in the 15 to 30 microbars/sec through the dendritic layer across northern Iowa. Light snow fell during the overnight hours into the early morning of the 18th. Snowfall amounts were quite light however. Heavier snow began to set up during the morning of the 18th. The snow band became convective, resulting in heavy snowfall of 1 to 2 inches per hour at times. The snow piled up quickly with 6 to 12 inch snowfall amounts common across the area. The heaviest snow fell along the Iowa/Minnesota border with most locations receiving a foot of snow. Some of the heavier snowfall amounts included 18 inches in Emmet County at Ringsted and 17 inches in Worth County at Northwood, and 14 inches in Winnebago County at Rake. Travel became difficult and the snow did cause some disruption, however the snow did not cause a major problem in the area. Very little damage was reported with the storm.

Kossuth County							
7 ENE Ledyard	30	0350CST		0	0		Hail(0.75)
Emmet County							
4 S Estherville	30	0428CST		0	0	2K	Hail(0.88)
Taylor County							
2 W Blockton	30	0935CST		0	0	3K	Hail(1.00)
Ringgold County							
3 W Redding	30	0957CST		0	0		Hail(0.75)
Ringgold County							
1 WNW Mt Ayr Muni A	30	1038CST		0	0		Hail(0.75)
Polk County							
4 NW Des Moines	30	1118CST		0	0	5K	Hail(1.00)
Polk County							
Des Moines	30	1127CST		0	0	2K	Hail(0.88)
Webster County							
10 SE Ft Dodge	30	1225CST	0.2	30	0	0	Tornado (F0)
		Brief touchdown in open area.					
Webster County							
Coalville	30	1230CST		0	0	5K	Hail(1.00)
Webster County							
1 E Duncombe	30	1240CST	0.1	25	0	0	Tornado (F0)
		Brief touchdown in open fields.					
Hamilton County							
5 NE Webster City	30	1251CST	0.2	30	0	0	Tornado (F0)
		Brief toucheown in open fields. Lifted dirt and dust as it rotated northwest.					
Dallas County							
5 E Adel	30	1305CST		0	0		Hail(0.75)



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<u>IOWA, Central</u>									
Wright County									
1 NW Dows	30	1315CST 1316CST	0.5	50	0	0	30K		Tornado (F1)
Tornado destroyed a garage and ripped the roof off of a barn northwest of Dows.									
Grundy County									
5 N Grundy Center	30	1318CST			0	0	50K		Thunderstorm Wind (EG52)
Black Hawk County									
Waterloo	30	1326CST			0	0	10K		Thunderstorm Wind (MG62)
Cerro Gordo County									
4.9 SE Mason City to 4.9 ESE Mason City	30	1339CST 1346CST	1.1	50	0	0			Tornado (F0)
Tornado touched down near U.S. Highway 18 and tracked north-northeast across open county. No damage occurred as it only lifted dirt into the air.									
Cerro Gordo County									
4.9 SE Mason City to 4.9 E Mason City	30	1342CST 1344CST	0.5	40	0	0			Tornado (F0)
Brief tornado touchdown in open area southeast of Mason City. Reports indicate there were two quick and brief touchdowns in that area. Track was somewhat intermittent.									
Cerro Gordo County									
1 E Mason City	30	1342CST	0.2	30	0	0			Tornado (F0)
Tornado touched down in open area east of Mason City. Reported by three spotters.									
Bremer County									
1 E Waverly	30	1350CST			0	0	5K		Thunderstorm Wind (EG57)
Poweshiek County									
6 N Brooklyn	30	1359CST			0	0	5K		Hail(1.00)
Jasper County									
Lynnville	30	1435CST			0	0	5K		Thunderstorm Wind (EG57)
Jasper County									
3 NW Newburg to 9 N Newburg	30	1455CST			0	0	1K		Hail(0.88)

The seasons first widespread severe weather episode took place during the day on the 30th. A strong upper level trough of low pressure moved through the central U.S. This system intensified as it moved through the area, eventually becoming a closed low at 500 mb centered over southern Minnesota by the evening. Strong surface low pressure developed and lifted northeast across the area. Moisture was drawn north ahead of the system with surface dew points reaching the mid 50s just ahead of the cold front. Temperatures rose into the mid 60s to low 70s ahead of the cold front. This, combined with cooling aloft, resulted in destabilization of the atmosphere. Lifted indices reached the -5 to -7 C. range with CAPE values in the 1000 to 1500 J/kg range. Freezing levels were low, given the time of the year. Freezing levels were in the 8000 to 9500 foot range during the event. The low level jet had increased to 50 to 60 kts ahead of the cold front. Thunderstorms erupted during the previous night and moved into northwest Iowa before sunrise. They produced nickel size hail in the Estherville area. The main area of thunderstorms developed by the mid to late morning hours and moved east across the state. Most of the storms produced gusty winds and hail of up to one inch in diameter. High winds from one of the storms blew over two semi-tractor-trailer trucks at the junction of U.S. Highway 20 and 14 in Grundy County. A 71 MPH wind gust was recorded by KWWL-TV in Waterloo with the storm. A short time later, winds estimated at 65 MPH were reported in Bremer County. Several reports of tornadoes were received. The tornadoes were all very small and move closely related to land spouts. All touched down in open areas and caused little damage. The first tornado touched down in Webster County southeast of Fort Dodge. A short time later, another tornado touched down east of Duncombe. The storms moved into Hamilton County and produced a brief tornado touchdown northeast of Webster City. Several reports of tornadoes were received from Cerro Gordo County east of Mason City. It appeared a cluster of small tornadoes occurred with several brief touchdowns reported during a brief time. Two of the tornadoes touched down about 5 miles southeast of Mason City in open country. One was on the ground for about a half mile, the other for a little over a mile. One of the stronger tornadoes of the day touched down in Wright County northwest of Dows. The tornado flattened a garage there and ripped the roof off of a barn at a farm about a mile northwest of Dows.